NOAA FISHERIES

Office of Protected Resources

2017 Marine Mammal Strandings Overview: United States

Only confirmed stranding activities involving species under the jurisdiction of NOAA Fisheries (cetaceans and pinnipeds, except walrus) are used in this report. All data were taken from the National Stranding Database and filtered accordingly. Any duplicate events, and entries of entangled large whales, were removed from the following analyses. All data and information described within this report are correct as of October 25, 2019.

Additional Information

This fact sheet provides a national overview. For additional details, please refer to the 2017 National Report of Marine Mammal Strandings in the United States.

Executive Summary

In 2017, there were 5,764 confirmed cetacean (whale, dolphin, porpoise) and pinniped (seal and sea lion) strandings documented in the United States.

One of the following criteria must be met for a marine mammal to be considered "stranded"

Dead, whether found on the beach or floating in the water.

Alive on a beach but unable to return to the water.

Alive on a beach and in need of apparent medical attention.

Alive in the water and unable to return to its natural habitat without assistance.

A mass stranding describes a simultaneous stranding of two or more cetaceans at the same time and place, other than cetacean cow/calf pairs.

Marine mammals strand for a variety of reasons. Results from examinations and necropsies (animal autopsies) show common causes of strandings include: disease; entanglements; harmful algal blooms and associated biotoxins; injuries due to vessel collisions or human interactions such as gunshots; malnutrition; marine debris; parasite infection; pollution exposure; or some combination of these factors. Some strandings may also be related to unusual weather or ocean-ographic events. Additionally, in many cases the cause of stranding remains undetermined. This report provides an overview of marine mammal stranding activities in the United States for calendar year 2017.

Photo (top): Members of the Stranding Network respond to a live-stranded pygmy sperm whale. Photo: Hubbs-SeaWorld Research Institute.

The U.S. Marine Mammal Stranding Response Network

Release of harbor seals successfully rehabilitated at Mystic Aquarium. Photo: Mystic Aquarium.

The U.S. Marine Mammal Stranding Response Network (National Stranding Network) is comprised of more than 100 organizations that provide first response capabilities for cetaceans and pinnipeds that are sick, injured, in distress, or dead. The overarching goals of the network are to provide for the welfare of live animals, minimize risks to public health and safety, use strandings as a resource for scientific information, advance public education, and enhance the conservation and management of wild populations and, in turn, our marine ecosystems.

The organizations that make up the National Stranding Network are authorized and overseen by the Marine Mammal Health and Stranding Response Program (MMHSRP), which is part of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) Office of Protected Resources. NOAA Fisheries has jurisdiction over all cetacean and pinniped species, except walrus. The MMHSRP—formalized through an amendment to the Marine Mammal Protection Act (MMPA) in 1992—focuses on four primary areas: (1) coordinating the stranding and entanglement response networks, (2) leading Unusual Mortality Event (UME) investigations, (3) conducting and supporting biosurveillance and baseline marine mammal health research, and (4) supporting stranding networks through administration of the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

Every marine mammal stranding event is unique and poses different challenges. Organized stranding response by highly trained and authorized personnel best serves the well-being of the stranded animals, and helps manage risks to public health and safety. The majority of responses to stranding events by the National Stranding Network involve species whose populations are relatively stable, such as common bottlenose dolphins (hereafter bottlenose dolphin; *Tursiops truncatus*), gray whales (*Eschrichtius robustus*), harbor seals (*Phoca vitulina*), and California sea lions (*Zalophus californianus*). Although these species are not listed as threatened or endangered under the Endangered Species Act (ESA), the information and experience gleaned from those cases helps keep the National Stranding Network organizations well trained and prepared for events involving ESA-listed species such as Cook Inlet beluga whales (*Delphinapterus leucas*), Guadalupe fur seals (*Arctocephalus townsendi*), Hawaiian monk seals (*Neomonachus schauinslandi*), North Atlantic right whales (*Eubalaena glacialis*), and Southern Resident killer whales (*Orcinus orca*).

Live animals that are rescued and rehabilitated provide valuable information on the biology, physiology, and disease risks of those species. The National Stranding Network is committed to returning live-stranded and rehabilitated animals to the wild when it is safe to do so for that individual animal and the wild populations. Human safety is the top consideration in every response. In some cases, euthanasia is the most humane course of action for the welfare of the animal when injuries are severe or the overall prognosis is poor. The decision to euthanize an animal is never approached lightly, and all other options are considered prior to making a decision. The euthanasia procedure is conducted humanely, respectfully, and efficiently by experienced and qualified personnel in consultation with NOAA Fisheries and in accordance with approved veterinary methods.

Necropsies of dead animals provide valuable insight into causes of mortality, life history (age and reproductive status), disease and contaminant exposure, physiology, and the population health of animals that cannot be readily observed in the wild. For some species, the only information available about its biology and natural history has been gained from stranded specimens. Data collected from live or dead stranded animals can also provide important information regarding human impacts on marine mammals such as interactions between marine mammals and fisheries, vessels, marine debris, or the effects of pollution (oil spills, contaminants, and heavy metals). The National Stranding Network provides data to the MMHSRP using a standardized reporting form, and these data are stored in the National Stranding Database. Data collected from stranding responses helps NOAA Fisheries monitor and understand wild stocks and populations, as well as make informed decisions for their management and conservation. The information the National Stranding Network collects on human interaction cases can become important evidence in law enforcement cases, and Network members are trained to follow strict "chain of custody" protocols to assist investigations.

National Overview

Marine Mammal Health Threats

Environmental Degradation and Ecosystem Change

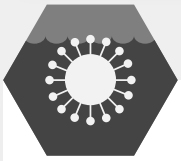
- Climate and ecosystem change
- Environmental contaminants
- Habitat degradation

Ocean Noise and Disturbance

- Acoustic disturbance
- Energy exploration
- Ocean noise
- Vessel-based harassment

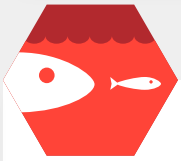
Fisheries Impacts

- Direct interactions/competition with fisheries
- Effects of fisheries on prey
- Entanglement in fishing gear or marine debris



Disease

- Biotoxins
- Pathogens



Predator-Prey Dynamics

- Predation
- Prey availability

Direct Human Take

- Human-caused mortality (including illegal shooting)
- Illegal feeding and harassment
- Unregulated harvest (outside of the United States)

Pollution

- Oil spills
- Chemical contaminants

Vessel Interactions

- Vessel harassment
- Vessel strikes

What Type of Marine Mammals Strand in the United States?

There are 66 species of marine mammals found in the jurisdictional waters of the United States, all of which are protected by the MMPA. Marine mammals are classified into four different taxonomic groups: cetaceans (whales, dolphins, and porpoises); pinnipeds (seals, sea lions, and walruses); sirenians (manatees and dugongs); and marine fissipeds (polar bears and sea otters). NOAA Fisheries is responsible for the protection and conservation of all cetaceans and pinnipeds, with the exception of walruses. The U.S. Fish and Wildlife Service (U.S. FWS) oversees the management of sirenians, sea otters, walruses, and polar bears. This report only includes data for species under the jurisdiction of NOAA Fisheries.

Top Health Threats for Pinnipeds

Disease

- Biotoxins
- Pathogens

Environmental Degradation and Ecosystem Change

- Climate and ecosystem change
- Habitat degradation

Direct Human Take

- Human-caused mortality (including illegal shooting)
- Illegal feeding and harassment
- Unregulated harvest (outside of the United States)

Fisheries Impacts

- Direct interactions/ competition with fisheries
- Effects of fisheries on prey
- Entanglement in fishing gear or marine debris

Pinnipeds[1]

Pinnipeds are seals, fur seals, and sea lions. All pinnipeds come ashore (on land or ice) to rest, breed, nurse and rear pups, molt, or avoid predators. When pinnipeds are observed sick, injured, in distress, or dead, the National Stranding Network responds to provide care, including rehabilitation in some cases, or to examine the carcass. The five most frequently stranded pinniped species nationwide in 2017 (Table 1) were the California sea lion, harbor seal, Northern elephant seal (*Mirounga angustirostris*), gray seal (*Halichoerus grypus*), and Steller sea lion (*Eumetopias jubatus*).

Table 1. Most common pinniped species to strand nationally in 2017.

Species	Confirmed Stranding Reports 2017	11-Year Average ± Standard Deviation[2] (2006-2016)
California Sea Lion	1,642	2,415 ± 1,240
Harbor Seal	1,065	1,153 ± 123
Northern Elephant Seal	454	436 ± 101
Gray Seal	297	166 ± 49
Steller Sea Lion	116	127 ± 26

California Sea Lion

Harbor Seal

Northern Elephant Seal

Gray Seal

Stellar Sea Lion

1 Illustrations depicted are not to scale relative to each other.

2 A standard deviation is a measure used to quantify the amount of variation within a set of values.

Small Cetaceans[3]

Small cetaceans are the toothed species of whales, dolphins, and porpoises that range in length from 5 to 25 feet. The small cetaceans found in U.S. waters have diverse life history patterns—some are solitary, others occur in large groups; some live in bays and estuaries, and some live far offshore. The five most frequently stranded small cetaceans nationally in 2017 (Table 2) were the bottlenose dolphin, short-beaked common dolphin (*Delphinus delphis*), harbor porpoise (*Phocoena phocoena*), false killer whale (*Pseudorca crassidens*), and long-beaked common dolphin (*Delphinus capensis*).

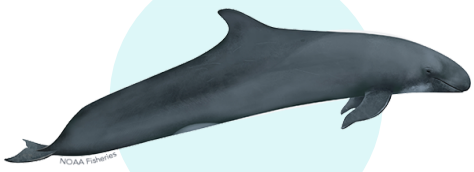
Table 2. Most common small cetacean species to strand nationally in 2017.

Species	Confirmed Stranding Reports 2017	11-Year Average ± Standard Deviation[4] (2006-2016)
Bottlenose Dolphin	689	809 ± 340
Short-beaked Common Dolphin	208	133 ± 91
Harbor Porpoise	192	201 ± 40
False Killer Whale	99	2 ± 1
Long-beaked Common Dolphin	54	50 ± 19

Bottlenose Dolphin

Short-beaked Common Dolphin

Harbor Porpoise



False Killer Whale

Long-beaked Common Dolphin

3 Illustrations depicted are not to scale relative to each other.

4 A standard deviation is a measure used to quantify the amount of variation within a set of values.

Top Health Threats for Small Cetaceans

Disease

- Biotoxins
- Pathogens

Environmental Degradation and Ecosystem Change

- Climate and ecosystem change
- Habitat degradation

Fisheries Impacts

- Direct interactions/ competition with fisheries
- Effects of fisheries on prey
- Entanglement in fishing gear or marine debris

Predator-Prey Dynamics

- Predation
- Prey availability

Top Health Threats for Large Whales

Disease

- Biotoxins
- Pathogens

Environmental Degradation and Ecosystem Change

- Climate and ecosystem change
- Habitat degradation

Fisheries Impacts

- Direct interactions/ competition with fisheries
- Effects of fisheries on prey
- Entanglement in fishing gear or marine debris

Predator-Prey Dynamics

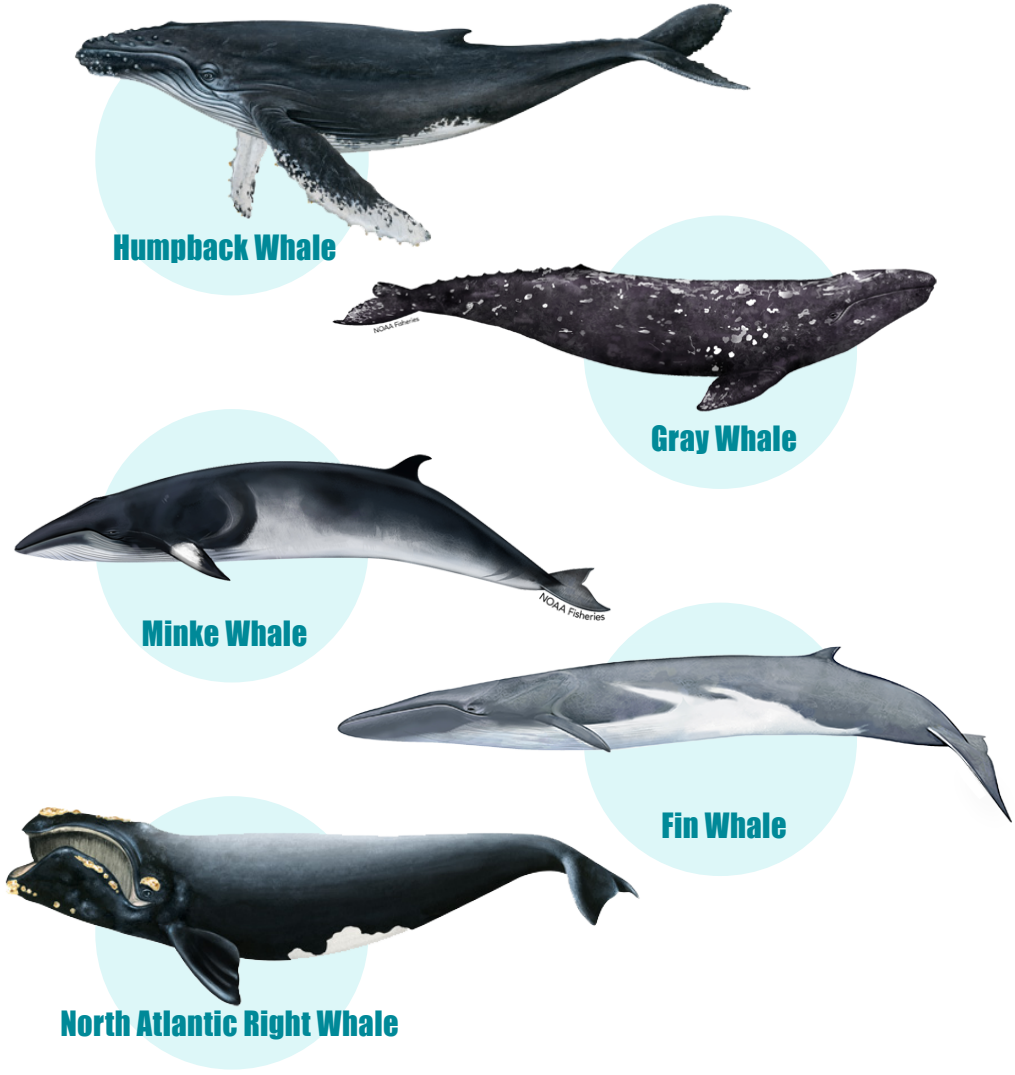
- Predation
- Prey availability

Large Whales[5]

Large whales are all of the baleen whales plus the largest toothed cetacean, the sperm whale (*Physeter macrocephalus*). Nationally, the five most commonly stranded large whales in 2017 (Table 3) were the humpback whale (*Megaptera novaeangliae*), gray whale, minke whale (*Balaenoptera acutorostrata*), fin whale (*Balaenoptera physalus*), and North Atlantic right whale.

Table 3. Most common large whale species to strand nationally in 2017.

Species	Confirmed Stranding Reports 2017	11-Year Average ± Standard Deviation[6] (2006-2016)
Humpback Whale	70	48 ± 19
Gray Whale	44	29 ± 8
Minke Whale	31	13 ± 6
Fin Whale	7	8 ± 3
North Atlantic Right Whale	5	3 ± 2



5 Illustrations depicted are not to scale relative to each other.

6 A standard deviation is a measure used to quantify the amount of variation within a set of values.

Comparing Confirmed Stranding Reports in 2017 to Past Years

In most cases, a stranded marine mammal is observed by a member of the public, who reports it to a member of the National Stranding Network via a hotline call (or by notifying local emergency services). The National Stranding Network then responds to confirm, document, and take the appropriate actions (as resources allow). In 2017, there were 5,764 confirmed marine mammal strandings nationwide. This number is comparable to the 11-year (2006-2016) average (n=6,318 ± 1,302), a time period in which national effort remained relatively consistent. Of the confirmed reports in 2017, 70 percent involved pinnipeds, 26 percent involved small cetaceans, and 3 percent involved large whales. Sometimes carcasses were too decomposed to classify animals as small cetaceans or large whales, and the location of the stranding limited access to, and recovery of, the carcass. These animals were categorized as "unknown cetacean." In 2017, 1 percent of stranded animals were classified as an unknown cetacean.

Unusual Mortality Events

Marine mammal strandings that are unexpected, involve a significant die-off of any marine mammal population, and demand immediate response are defined as Unusual Mortality Events (UMEs) under the MMPA. There are seven criteria that identify a mortality event as "unusual," and a UME must meet at least one. A Working Group of marine mammal health experts determines if the event meets at least one of the UME criterion, after which NOAA Fisheries may declare the event an UME. Understanding and investigating marine mammal UMEs is crucial because these events can serve as indicators of ocean health, giving insight into larger environmental or anthropogenic issues. Since 1991, NOAA Fisheries has documented UMEs along the U.S. coasts of the Atlantic, Gulf of Mexico, and Pacific, including Alaska and Hawaii. In recent years, increased efforts to examine carcasses and live-stranded animals have improved the knowledge of mortality rates and causes, allowing a better understanding of population threats and stressors, and the ability to determine when a situation is "unusual." In 2017, two new UME Investigations were declared and one was ongoing from a previous declaration (Table 4; an additional UME was declared for Florida manatees, under USFWS jurisdiction). More information about UMEs is available at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-unusual-mortality-events.

Table 4. **Marine mammal UMEs occurring in the United States during calendar year 2017.**

Year Declared	UME Name	Number of Animals Involved (through 12/31/2017)	Body of Water/Location	Preliminary Cause
2017	Atlantic Humpback Whale	60	Atlantic Ocean	Suspect Human Interaction (Vessel Strike)
2017	North Atlantic Right Whale	United States = 5 Canada = 12	Atlantic Ocean, Canada and United States	Human Interaction (Vessel Strike/Rope Entanglement)
2015 (ongoing)	Guadalupe Fur Seal	236	Pacific Ocean, California	Ecological Factors

Rehabilitation and Release of Stranded Marine Mammals

Some National Stranding Network organizations are authorized to rehabilitate live-stranded marine mammals with the primary goal of returning healthy animals back to the wild. Pinnipeds are the most common candidates for rehabilitation since they are relatively small and live partially on land, so they are easier to handle than cetaceans, and there are facilities on both the East and West coasts that specialize in pinniped care and treatment. Since cetaceans live entirely in water, fewer facilities nationwide can accommodate them, and none are equipped to provide appropriate care for adult large whales. Regulations require that a marine mammal held for rehabilitation be released within six months, unless an attending veterinarian determines that the animal might adversely affect wild populations, the release is unlikely to be successful due to physical condition and behavior, or more time is needed for assessment and medical treatment. In 2017, 1,724 animals were rehabilitated nationwide (pinniped=1,707; small cetacean=17) and 1,006 (58 percent) were released. Stranded animals sometimes die in rehabilitation due to the poor condition they arrive in or other health complications. In 2017, 706 (41 percent) marine mammals died in rehabilitation. In addition, 12 (1 percent) rehabilitated marine mammals were deemed non-releasable[7] due to behavioral, ecological, and/or medical concerns that left them unlikely to survive in the wild. The MMHSRP and NOAA Fisheries' Permits and Conservation Division work with marine mammal public display and research facilities to place non-releasable animals into permanent managed care. More information on NOAA Fisheries' non-releasable policy can be found at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/non-releasable-marine-mammals.

7 This number includes two cetaceans that stranded and were rehabilitated starting in 2017, and were moved to permanent managed care in 2018.

Balancing a Regional Approach to Marine Mammal Strandings with National Consistency

The National Stranding Network is comprised of highly skilled and trained professional organizations, including aquaria, for-profits, government agencies, higher education institutions, museums, non-profits, and tribes. These organizations are authorized under the MMPA to respond to and rehabilitate stranded marine mammals, either through Stranding Agreements (SA) issued by NOAA Fisheries or in their capacity as federal, state, or local governments. They conduct the on-the-ground activities required to safely respond to marine mammal strandings and are committed to animal welfare and education. Often faced with challenging circumstances, trained network members are responsible for making decisions that ensure appropriate care is provided to stranded animals.

Regional Context

For additional details on regional marine mammal strandings, please refer to the regional overview fact sheets.

Each of NOAA Fisheries' five jurisdictional regions (Figure 1) has a Regional Stranding Coordinator and/or Regional Stranding Administrator, who processes and administers SAs and coordinates stranding response within their region: Alaska Region (AKR), Greater Atlantic Region (GAR; Maine through Virginia), Pacific Islands Region (PIR; Hawaii, Guam, the Northern Mariana Islands, and American Samoa), Southeast Region (SER; North Carolina through Texas, Puerto Rico, and U.S. Virgin Islands), and West Coast Region (WCR; California, Oregon, and Washington). Marine mammal strandings vary widely across the United States (Table 5), and can fluctuate within the same geographical area between years (Figure 2). There are regional differences in the species, abundance, and distribution of marine mammals most likely to strand, in the frequency and seasonality of stranding events, and also in the likelihood of detection and reporting of stranding events.

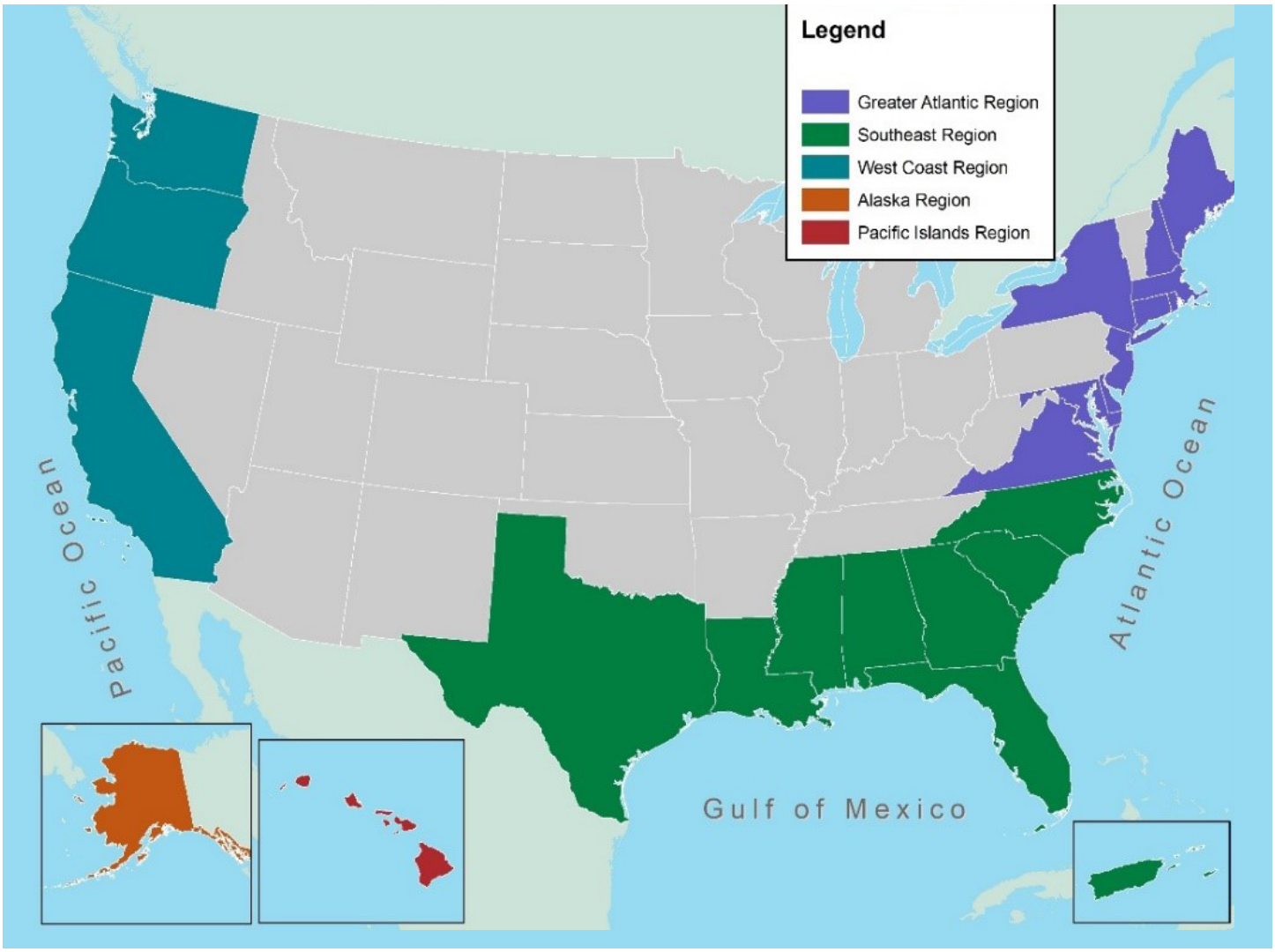


Figure 1. NOAA Fisheries' five jurisdictional regions.

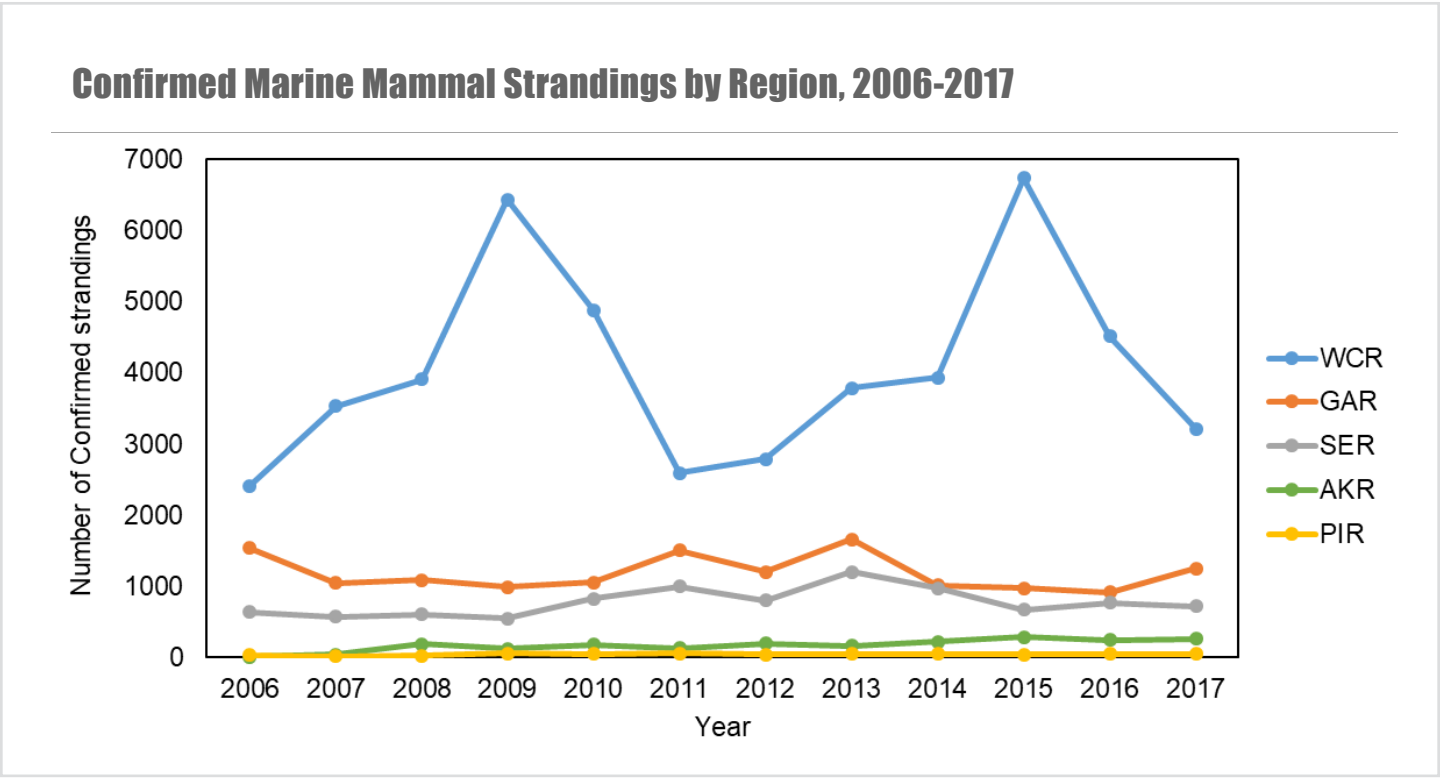


Figure 2. Confirmed marine mammal strandings by region from 2006–2017. In 2017, strandings in most regions remained level as compared to recent years; WCR stranding totals decreased and GAR totals increased slightly.

Table 5. Nationwide stranding summary by region, 2017.

2017 Strandings	WCR	GAR	SER	AKR	PIR	Total
Pinnipeds	2,977	874	7	127	34	4,019
Small Cetaceans	226	467	741	51	14	1,499
Large Whales	46	78	13	43	4	184
Unknown Cetacean	3	7	10	42	0	62
Total	3,252	1,426	771	263	52	5,764
(% of National Total)	(56%)	(25%)	(13%)	(5%)	(1%)	

What Can Members of the Public Do?

Rescue personnel respond to an entangled bottlenose dolphin calf. Photo: Clearwater Marine Aquarium.

Regional 24/7 Hotlines

The Marine Mammal Health and Stranding Response Program relies on reports of stranded marine mammals by the public. If you come across a stranded marine mammal please report it to your regional 24/7 hotline.

West Coast	*(866) 767-6114*
Greater Atlantic	*(866) 755-6622*
Southeast	*(877) 942-5343*
Alaska	*(877) 925-7773*
Pacific Islands	*(888) 256-9840*

Reporting a Stranding

The most important information to collect includes the:

- Date
- Location of stranding (including latitude and longitude)
- Number of animals
- Condition of the animal (alive or dead), and
- Species (if known)

Photos or videos (from a safe and legal distance) can also provide valuable information to network responders. Only trained and permitted responders should approach or pick up a stranded marine mammal. You can also download the Dolphin & Whale 911 Stranding App in the Apple Store to help report a stranding.

Getting Involved

The National Stranding Network relies on government, private, and public support to conduct its vital work to save animals in distress and understand causes of injuries and mortalities. You can make a difference by contacting your local Stranding Network (list available at: https://www.fisheries.noaa.gov/report) to see how you can get involved.

Only trained and permitted responders should approach or pick up a stranded marine mammal.

All photographs were taken under Stranding Agreement, Section 109(h) authority, or permit.

U.S. Secretary of Commerce
Gina Raimondo

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www.fisheries.noaa.gov

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